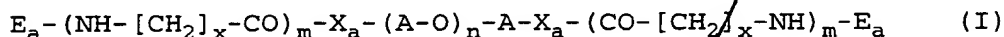


Patent Claims

1. A biaxially stretched and thermoset, tubular, seamless, single-layer or multiple-layer food casing in which the layer or, in the case of multiple-layer casings, at least one of the layers comprises a block copolymer containing "hard" aliphatic polyamide blocks and "soft" aliphatic polyether blocks, which block copolymer corresponds to one of the formulae I to III



where

A is an alkanediyl radical of the formula
 $-CH_2-CH_2-$ (= ethane-1,2-diyl),

$-CH_2-CH(CH_3)-$ (= propane-1,2-diyl) or

$-(CH_2)_4-$ (= butane-1,4-diyl),

X_a is $-O-$ or $-NH-$,

E_a is H, (C_2-C_8) alkanoyl, benzoyl or phenylacetyl,

$CO-N([CH_2]_{x-1}-CH_3)-CO-(C_1-C_4)$ alkyl,

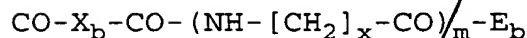
$CO-N([CH_2]_{x-1}-CH_3)-CO-C_6H_5$ or

$CO-N([CH_2]_{x-1}-CH_3)-CO-CH_2-C_6H_5$,

x is an integer from 5 to 11,

m is an integer from 30 to 200 and

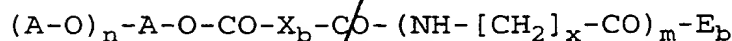
n is an integer from 4 to 60;



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O

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where

X_b is an alkanediyl radical of the formula

$-\text{[CH}_2\text{]}_z-$,

where z is an integer from 4 to 10,

meta- or *para*-phenylene,

$-\text{NH}-(\text{C}_1-\text{C}_6)\text{alkyl}-\text{NH}-$,

$-\text{NH}-\text{C}_6\text{H}_3-(\text{CH}_3)-\text{NH}-$,

$>\text{N}-\text{[CH}_2\text{]}_{x-1}-\text{CH}_3$, $-\text{[CH}_2\text{]}_z-\text{CO}-\text{N}(\text{[CH}_2\text{]}_{x-1}-\text{CH}_3)-$ or

$-\text{C}_6\text{H}_4-\text{CO}-\text{N}(\text{[CH}_2\text{]}_{x-1}-\text{CH}_3)-$,

where C_6H_4 is *meta*- or *para*-phenylene,

E_b is $-\text{OH}$, $-\text{O}-(\text{C}_1-\text{C}_7)\text{alkyl}$, $-\text{O}$ -phenyl or $-\text{N}-\text{C}=\text{O}$

\ /
 $[\text{CH}_2]_x$

and

A , m and n have the meanings given above;

$-\text{[X}-(\text{CO}-\text{[CH}_2\text{]}_x-\text{NH})_o-\text{Y}-\text{X}-(\text{A}-\text{O})_p-\text{A}]-$ (III)

where

Y is $-\text{CO}-$, $-\text{CO}-\text{[CH}_2\text{]}_z-\text{CO}-$ or $-\text{CO}-\text{C}_6\text{H}_4-\text{CO}-$,

where C_6H_4 is *meta*- or *para*-phenylene, or is

$-\text{CO}-\text{N}(\text{[CH}_2\text{]}_{x-1}-\text{CH}_3)-\text{CO}-$,

$-\text{CO}-\text{N}(\text{[CH}_2\text{]}_{x-1}-\text{CH}_3)-\text{CO}-\text{[CH}_2\text{]}_z-\text{CO}-\text{N}(\text{[CH}_2\text{]}_{x-1}-\text{CH}_3)-$

$\text{CO}-$ or

$-\text{CO}-\text{N}(\text{[CH}_2\text{]}_{x-1}-\text{CH}_3)-\text{CO}-\text{C}_6\text{H}_4-\text{CO}-\text{N}(\text{[CH}_2\text{]}_{x-1}-\text{CH}_3)-$

$\text{CO}-$,

where C_6H_4 has the meanings specified,

o is an integer from 10 to 150 and

p is an integer from 4 to 100 and

A , x and z have the meanings given above.

2. The food casing as claimed in claim 1, wherein the hard polyamide blocks in the block copolymers of the formulae I to III have a glass transition temperature (T_g) of from 20 to 80°C and the soft polyether blocks have a T_g of from -100 to -20°C.

3. The food casing as claimed in claim 1 ~~or 2~~, wherein the polyamide blocks are polycaprolactam blocks and the polyether blocks are poly(ethylene glycol) or poly(butylene glycol) blocks.
4. The food casing as claimed in claim 1 ~~or 2~~, wherein, in the block copolymers of the formulae I and II, m is from 40 to 100 and n is from 10 to 40 and, in the block copolymers of the formula III, o is from 10 to 60 and p is from 20 to 40.
5. The food casing as claimed in ^{Claim 1} ~~one or more of claims 1 to 4~~, wherein the layer comprises at least one aliphatic and/or partially aromatic (co-)polyamide, mixed with the remaining constituents.
6. The food casing as claimed in claim 5, wherein the (co-)polyamide is nylon 6, nylon 6/6,6, nylon 6/12, nylon 12 or nylon 6I/6T.
7. The food casing as claimed in claim 5 ~~or 6~~, wherein the proportion of the (co-)polyamide is up to 85% by weight, based on the total weight of the layer.
8. The food casing as claimed in ^{Claim 1} ~~one or more of claims 1 to 7~~, wherein the layer comprises inorganic or organic pigments.
9. The food casing as claimed in claim 1 ~~or 2~~, which consists of multiple layers and the further layers consist of polyamides or polyolefins.
10. The food casing as claimed in claim 1 ~~or 2~~, which has been stretched by blow-molding and extruded through a heated ring die.

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11. The food casing as claimed in claim 1 ~~or 2~~, which has an area stretching ratio of from about 6 to 10.

ADD C²
ADD D² }